

## Material Safety Data Sheet

Revision Date: 01.10.2020

# MONOETHYLENE GLYCOL

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

- Trade name : MONOETHYLENE GLYCOL
- Synonyms : MEG, Ethylene Glycol, 1,2-dihydroxyethane, 1,2-ethanediol
- CAS number : 107-21-1

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

##### Uses of the Substance / Mixture

- Chemical industry
- Manufacturing polyester polymers
- Anti-freeze production

#### 1.3. Company/Undertaking Identification

Address : **NOVICHEM CO.**  
**No.30, Magnolia Str, Qaem Maqam Farahani Ave.**  
**Tehran 15886/13941 IRAN**

#### 1.4. Emergency and contact telephone numbers

Contact telephone number : + 98-21-88329799 (Hunting)  
product information):

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### **Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 4, Oral	H302: Harmful if swallowed.
Specific target organ toxicity - repeated exposure, Category 2, Kidney	H373: May cause damage to organs through prolonged or repeated exposure.

#### 2.2 Label elements

##### **Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal word : Warning

Hazard statements	:	<p><b>PHYSICAL HAZARDS:</b> Not classified as a physical hazard according to CLP criteria.</p> <p><b>HEALTH HAZARDS:</b> H302 Harmful if swallowed. H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.</p> <p><b>ENVIRONMENTAL HAZARDS:</b> Not classified as environmental hazard according to CLP criteria.</p>
Precautionary statements	:	<p><b>Prevention:</b> P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product.</p> <p><b>Response:</b> P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. P330 Rinse mouth. P314 Get medical advice/ attention if you feel unwell.</p> <p><b>Storage:</b> No precautionary phrases.</p> <p><b>Disposal:</b> P501 Dispose of contents/ container to an approved waste disposal plant.</p>

**SECTION 3: Composition/information on ingredients**

**3.1 Information on Components and Impurities**

**Hazardous components**

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Monoethylene glycol	107-21-1 203-473-3	99 - 100
Diethylene glycol	111-46-6 203-872-2	0 - < 1

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### In case of inhalation

- Move to fresh air.
- Oxygen or artificial respiration if needed.
- Victim to lie down in the recovery position, cover and keep him warm.
- Call a physician immediately.

#### In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- Keep warm and in a quiet place.
- Call a physician or poison control center immediately.
- Wash contaminated clothing before re-use.

#### In case of eye contact

- Call a physician or poison control center immediately.
- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Take victim immediately to hospital.

#### In case of ingestion

- Call a physician or poison control center immediately.
- Take victim immediately to hospital.
- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.
- Artificial respiration and/or oxygen may be necessary.

### 4.2 Most important symptoms and effects, both acute and delayed

#### In case of inhalation

##### Symptoms

- At high concentrations:
- slight irritation

##### Effects

- No hazards to be specially mentioned.

#### In case of skin contact

##### Symptoms

- Redness
- Swelling of tissue
- Burn

##### Effects

- Corrosive

#### In case of eye contact

##### Symptoms

- Redness
- Lachrymation
- Swelling of tissue
- Burn

**Effects**

- May cause irreversible eye damage.
- May cause blindness.

**In case of ingestion****Symptoms**

- Nausea
- Abdominal pain
- Bloody vomiting
- Diarrhea
- Suffocation
- Cough
- Severe shortness of breath

**Effects**

- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

**SECTION 5: Firefighting measures**

<b>Suitable extinguishing media</b>	: Foam Dry chemical Carbon dioxide (CO <sub>2</sub> )
<b>Unsuitable extinguishing media</b>	: High volume water jet
<b>Specific hazards during fire-fighting</b>	: Do not allow run-off from fire fighting to enter drains or water
<b>Hazardous combustion products</b>	: Carbon oxides toxic fumes
<b>Further information</b>	: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Special protective equipment for firefighters</b>	: Wear self-contained breathing apparatus for firefighting if necessary Use personal protective equipment.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

<b>Environmental precautions</b>	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
<b>Methods and materials for containment and cleaning up</b>	: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

## SECTION 7: Handling and storage

**Advice on protection against fire and explosion** : Normal measures for preventive fire protection.

**Advice on safe handling** : Do not breathe vapours/dust.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.

**Conditions for safe storage** : Keep container tightly closed in a dry and well-ventilated place.  
Electrical installations / working materials must comply with the technological safety standards.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace occupational exposure limits

Consult local authorities for acceptable exposure limits.

### 8.2 Exposure controls

#### Control measures

##### **Engineering measures**

- Provide appropriate exhaust ventilation at places where dust is formed.
- Apply technical measures to comply with the occupational exposure limits.

#### Individual protection measures

##### **Respiratory protection**

- In case of insufficient ventilation, wear suitable respiratory equipment.
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Recommended Filter type: P3 filter
- In case of decomposition (see section 10), face mask with combined type B-P3 cartridge.

##### **Hand protection**

- chemical resistant gloves

##### **Suitable material**

- PVC
- Neoprene
- Natural Rubber

##### **Eye protection**

- Goggles

##### **Skin and body protection**

- Dust impervious protective suit
- Apron
- Boots
- PVC
- Neoprene

**Hygiene measures**

- Eye wash bottles or eye wash stations in compliance with applicable standards.
- When using do not eat, drink or smoke.
- Handle in accordance with good industrial hygiene and safety practice.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance	: Liquid
Colour	: Clear, Colorless
pH	: 9
Freezing Point (Melting point/freezing point)	: -13 - -11.2 °C (9 - 11.8 °F)
Boiling Point (Boiling point/boiling range)	: 197.4 °C (387.3 °F)
Flash point	: 111 - 116 °C (232 - 241 °F) Method: closed cup
Evaporation rate	: 0.01
Upper explosion limit	(Butyl Acetate = 1) : 22 %(V)
Lower explosion limit	: 1.8 %(V)
Vapour pressure Relative	: < 1 hPa @ 20 - 25 °C (68 - 77 °F)
vapour density	: < 2.14 @ 20 - 25 °C (68 - 77 °F)
Specific GR (20/20 °C)	: 1.1151 - 1.1156
Solubility(ies)	
Water solubility	: soluble
Partition coefficient: n-octanol/water	: log Pow: -1.36
Auto-ignition temperature	: 398 °C

**SECTION 10: Stability and reactivity****10.1 Reactivity**

- No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

- Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

- No hazards to be specially mentioned.

**10.4 Conditions to avoid**

- Keep away from heat, flame, sparks and other ignition

**10.5 Incompatible materials**

- Strong bases
- Strong oxidizing agents
- Strong acids
- Aldehydes
- Aluminium
- Plastics
- Reducing agents Peroxides

**10.6 Hazardous decomposition products**

- Aldehydes
- Ketones
- Organic acids
- Carbon oxides

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity****Product:**

**Acute oral toxicity** : Acute toxicity estimate: 493.91 mg/kg

**Components:****107-21-1:**

**Acute oral toxicity** : Assessment: The component/mixture is moderately toxic after single ingestion.

**111-46-6:**

**Acute oral toxicity** : LD50 (Human): Calculated 1,120 mg/kg  
Assessment: The component/mixture is moderately toxic after single ingestion.

**Carcinogenicity**

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**SECTION 12: Ecological information**
**12.1 Toxicity**
**Other adverse effects**
**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
 Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

**SECTION 13: Disposal considerations**
**13.1 Waste treatment methods**
**Disposal methods**

Contaminated packaging : Empty remaining contents.  
 Dispose of as unused product. Do not re-use empty containers.

**SECTION 14: Transport information**
**SECTION 14. TRANSPORT INFORMATION**
**DOT (Department of Transportation):**

UN3082, Environmentally hazardous substances, liquid, n.o.s., (ETHYLENE GLYCOL), 9, III

**IATA (International Air Transport Association):** Not regulated as a dangerous good

**IMDG-Code:** Not regulated as a dangerous good

**Special Notes:** : This material is shipped as a Class 9, Packing Group III when each package meets or exceeds the reportable quantity, otherwise it may be shipped as not regulated.

**SECTION 15: Regulatory information**
**EPCRA - Emergency Planning and Community Right-to-Know Act**
**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Ethylene glycol	107-21-1	5000	5000
1,4-Dioxane	123-91-1	100	*



\*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
Specific target organ toxicity (single or repeated exposure)

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

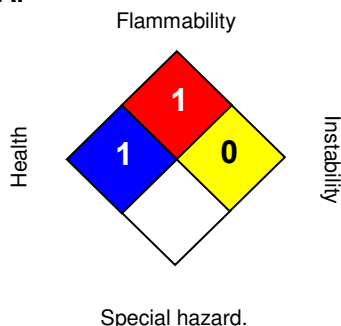
107-21-1 Ethylene glycol

**The components of this product are reported in the following inventories:**

- TSCA : On TSCA Inventory
- DSL : All components of this product are on the Canadian DSL
- AICS : On the inventory, or in compliance with the inventory
- NZIoC : On the inventory, or in compliance with the inventory
- ENCS : On the inventory, or in compliance with the inventory
- KECI : On the inventory, or in compliance with the inventory
- PHIL : On the inventory, or in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

**NFPA:**



**HMIS III:**

<b>HEALTH</b>	<b>1*</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 =Slight,  
2 = Moderate, 3 = High  
4 =Extreme, \* = Chronic

Information contained herein is provided in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.